1. (5 points). The diagram below shows a leftist heap that might be formed during the running of the round robin algorithm. Keys and ranks have been omitted. Nodes labeled with dashes (-) are dummy nodes introduced by lazy melds. For other nodes, the labels represent an edge in the graph (for example *be* denotes the edge {*b*, *e*}). Assume that the tree corresponding to this heap includes the vertices *a, c, d, f, h* and *j*. Draw an X through all nodes that are considered ``deleted'' by the round robin algorithm. Suppose a *findmin* operation is done on this heap. Draw a closed curve around each of the subtrees that are returned by the resulting call to the *purge* method.
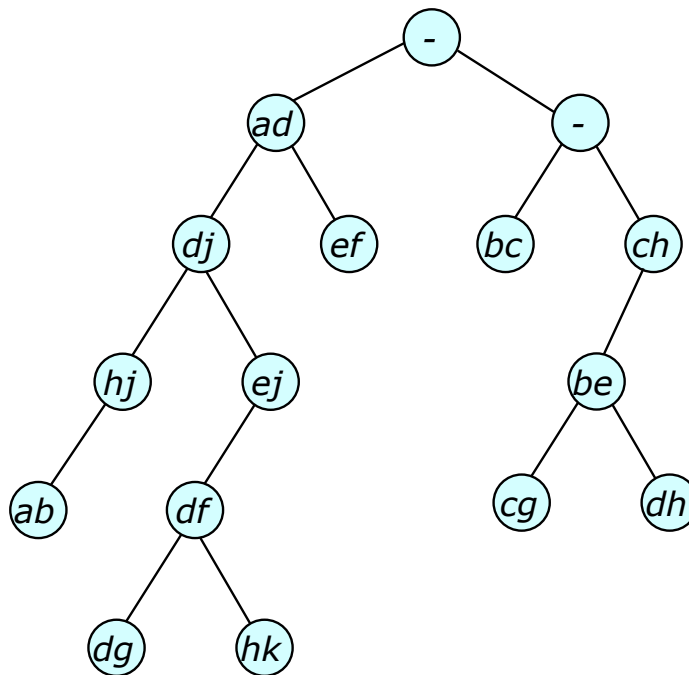
2. (5 points) In Edmond's algorithm, suppose that vertices *a, c, f, g, h, i* and *k* form a blossom. Suppose that edges {*a, f*}, {*c, h*}, {*i, k*}, are in the matching. Which vertex is the base of the blossom?

   Suppose that the base of the blossom has a parent in the tree. Is the edge to the parent in the matching or not?

   Suppose {*h, k*} is the bridge of the blossom and the parent of *c* in the tree is *a*. List all the *even* vertices in the blossom, at the moment just before the blossom was formed (suggestion: draw a picture of the blossom).

   Suppose that after the blossom is formed, we process the edge {*i, d*} where *d* is in a different tree, yielding an augmenting path. When the augmenting path is flipped, which of the matching edges in the blossom is *removed* from the matching.